

The Role of Educational Software in Improving the Performance of Students

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Abstract—The use of educational software as a tool in teaching and computerized learning increases the learner's skills that are needed during his/her study. It also helps in providing a proactive environment between the student and the teacher from one side and among students from another side, which will result in the best results. It was clear that the use of these educational software increases the advancement of students in their achieved schools work as well as their push towards learning in all steps of the educational process. Research confirmed that the deployment of computer in education and considering it as a tool to help elevate the level of the push of students to learn becomes an ongoing necessity. This in turn requires providing specialized training sessions in this field, expanding the base of teachers who benefit from these sessions and equip them with skills on how to deal with the computer and how to design the educational software that is needed to serve the educational process. The use of new techniques in public schools that go alongside with updating curriculum produced better results. So, it is become necessary to do periodical training sessions to make the importance of using the educational software in education clear to the students and encourage them to participate in the educational process and deploy their rule more than before. This way it will be possible to overcome most of the difficulties that prevents the deployment of educational software in serving education.

Index Terms— Software, theoretical, learning, computer applications, teaching methods.

1 INTRODUCTION

THERE is no doubt that the teacher is the first source of knowledge. This has been emphasized by the Traditional old school with all its styles and teaching methods. This school is focused on the intensification of theoretical Information in the education through memorization without attention to the modern theory of education, which depends on the understanding and perception of scientific facts, and overlooked the role of the learner completely which is the main element of the modern theory of education[1],[6].

The modern school has focused on the learner, where it mainly relied on the use of his/her senses as tools for learning that connect with all things around. These senses will be transferring these effects to the brain to be analyzed and classified in the form of knowledge and experiences that can be comprehended and perceived to face new life situations. In addition, this school did not ignore the role of the teacher and made him as the guide and supervisor who regulates the teaching and learning process, in light of the functional use of modern methods and techniques with a focus on modern technologies, which uses scientific methods in the educational process that, depend on the visual contact, stability, employment and development trends[3],[10].

Using visual contact, employment and all learning tools available to the human being, the learner discovers scientific facts or parts of it. The brain classify them in order to extract laws that are used to arrive to sensory experiences which lead to awareness and understanding of the required scientific facts. The person learns with his hands and other senses by using the tools of learning process, and thus gradually evolves. This is due to the complete interaction with the overall sense of this process. Therefore, the pursuit of science, knowledge, and what is required from the love of discovery and perception becomes a preferred habit that is applied with

him throughout his life.

In light of the challenges in information and communications that are taking place in communities, which have contributed to the development of educational institutions, especially with the appearance of new forms of rapid and successive education systems, so computers have been applied in education and training. Consequently, educational software has become an urgent need to raise the performance of students in schools where the student is ready to receive, assimilate, and apply at a large scale [4],[16].

For example, students in a classroom studying geography see satellite images that show terrain, and will recognize the connection between terrain and climate, and how the emergence of the different climatic conditions, in addition to the simulation of this relationship through the deployment of multimedia in the delivery of content of the curricula for students, as a movement of wind and temperature and other factors.

The Scientific participation in this research that it contributes to open the area to writing other research showing the impact of the use and recruitment of educational software in the education service which contributes to the development of this area in the future.

2 THE RESEARCH PROBLEM

The concept of technology has been coupled since its beginning with various industries over a period of time, before it entered the world of education, which was connected to the concept of the use of tools and equipment in education such as monitors' registration and other tools. These devices have been used as aided audio and visual equipment for the pro-

cess of education. After that, this field started to develop in order to deploy educational trends and theories of education and psychology in teaching methods using a variety of teaching aids. So the educational software came to complement the role of these methods and increase students' motivation towards learning through the provision of suspense and excitement felt by the learner. Although the educational software was deployed for some teachers in the education process, it was not enough because of the lack of awareness of a lot of teachers to the role of educational software and its impact on the educational process. Hence the search came to explain the impact and role of educational software for the students and teacher and thus live up to the educational process as a whole.

3 THE IMPORTANCE OF RESEARCH

The importance of research is as follows:

1. The development of the modern trends in the use and recruitment of educational software in the education service.
2. Detection of difficulties that prevent the use and recruitment of educational software in education service and to find solutions then overcome them.
3. The contribution of this research in opening the way to the researchers for writing and showing the impact of the use and recruitment of educational software in the education service which contributes to the development of this area in the future.

4 RESEARCH OBJECTIVES

The goals of this research are: -

1. Defining the Educational Software and showing its importance.
2. Clarification of the impact of usage and recruitment of educational software in the education service.
3. Identify difficulties that hinder the deployment of educational software in the education service.

4.1 Discussion of The Objectives of the Research

4.1.1 Definition of Educational Software And its Importance:

Software is considered one of the most important foundations used in computer in education. It is a set of logical and intangible components that is introduced in a form of different types of educational materials via computer. It allows the learner to interact with it, and provide him/her with immediate feedback to achieve specific goals. There are different styles used in educational software design group, in order to

1. **Simulation:** where the learner is trained within the framework of natural phenomena, without costs, burdens, or risk, and the learners face similar situations in their daily lives. This can be used in programming to address complex concepts, or that which is difficult to provide factual mini models or factual enlarged models to them in the classroom. Among the advantages of this style: suspense, realism, and achievement of goals in a reasonable time, and to encourage cooperation, and social interaction, and teach critical thinking.
2. **Educational games:** These are programs made for fun. They depend on the method of simulation, and the development of skills, such as problem solving. They make the education interesting to the children, and they are designed to help promote and learn educational goals. Among the advantages of this type: the competition, the thrill, the excitement, and fun, and a commitment to a set of rules and laws to control the process.
3. **Exercise and practice:** one of the most computer applications in education, where students are trained to exercise after studying the educational material, and get a feedback, where exercises are given at different levels, as they are providing a educational lessons to students directly, leading to students' interaction with the tutorial which provides a series of examples and exercises to increase the versatility of the student in that skill. This program depends on the continued enhancement for each correct answer, and instant feedback. Among the benefits of this type: the excitement and the desire for the student, and to give him a sufficient opportunity to train without control, and to provide the learner with results of his performance.
4. **Problem solving:** in this stage we can write steps for solving the problem, perform calculations, and to deal with the data as numbers, with the need to provide some things to solve the problem effectively, such as: the desire to solve the problem, and possess the knowledge, experience, availability of the problem and the solutions, and the ability to make design and to test solutions to reach the right solution. Among the advantages of this pattern: increasing self-confidence when the problem is solved, self-reliance, the acquisition of knowledge and experience, and develop the ability to analyze and decision making.
5. **Educational dialogue:** where a software is designed using the method of asking questions and providing information and instant feedback on the software plan. This is considered one of the newest and most sophisticated styles, offering an assessment of the student performance based on his mistakes, and determine the problem location facing the student to learn the educational material, and provide the necessary treatment for the problem.
6. **Special teaching programs:** It serves as a special tutor for the student, and the information is provided through these programs in the form of small units based on the principle of individual learning. This style is characterized by the abundance of material offered

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fit in with the characteristics of the students and their abilities including:

that consists of concepts, relationships, generalizations, and examples [2], [14,15].

4.1.2 The Impact of the use and Deployment of Educational Software in the Education Service

Many of the workers in the educational software field built hopes of the role that the educational software has played in the educational process. Those who are interested in this field see that the use of educational software in education will lead to [11-13]:

1. Making education more effective and more impactful, especially in math and science.
2. Helping to train the learners to acquire some skills regarding self-learning.
3. Developing problem solving skills for learners.
4. Helping learner to create art, engineering designs, and operations.
5. Assisting to display the scientific experiments, especially the dangerous experiments.
6. Deployment of educational games for children through entertainment programs.
7. Assisting the processes of self-evaluation, and enhancing the learning through curriculum materials and activities associated with it.
8. Making education more attractive and fun through the provision of colors and images.
9. Enabling vulnerable students to correct their mistakes without embarrassment.
10. Saving time and effort of the teacher and the learner.

4.1.3 Difficulties impeding the deployment of educational software in the education service:

1. Lack of proper preparation software for use in the educational process.
2. Lack of training the educational personnel, including teachers on the use of these techniques.
3. Lack of trained educational teams on the use of educational software.
4. Lack of close cooperation between various local organizations and educational institutions.
5. Lack of financial resources that finance the purchase of equipment and hardware required for this software from computers and monitors, speakers, microphones and other physical requirements[4].

5 PREVIOUS STUDIES

1. Study of (Zakaria bin Yahya Lal (2010): This study aimed to reveal the trend towards e-learning among teachers of secondary schools in Jeddah, Saudi Arabia in light of scientific specialization variables, work experience, and attend educational seminars in the field of techniques. The researcher shows that the e-learning includes many usage group to facilitate the teaching and learning process, and these uses vary from technological means that are simple to those that are more complex or advanced, allowing the opportunity for education to students anywhere, anytime, in accordance with their own special abilities, and according to their

speed in education. This allows the realization of the principle that students learn how to learn, and that e-learning is the kind of education that allows students to learn through the principle of cooperative learning through participation in specialized forums or through email communication, and also allows the principle of individualized education that stands out through what the individual capabilities allow him to complete his own study successfully and superiority. The study concluded that the direction of teachers with scientific specialization towards e-learning is more positive due to the field of science that is in dire need to identify what is new in the realm of science. In addition to this, it was found that the teachers with less than 5 years of experience in the field are more positive due to the fact that young teachers are more aspiration and passion in dealing with different techniques [5].

2. Study of (Anscherah Ibrahim Mohammed al-Mashrafe 2010): This study aimed to develop a general framework for building electronic calendar to evaluate, It also evaluated the impact of programs on the development of skills to use the computer at kindergarten level. The study concluded that the proposed program is effective in the development of the efficiencies of electronic calendar in the construction of electronic child work bag with kindergarten teacher. The results showed the effectiveness in computer skills of kindergarten children, The researcher recommended the need to consider the business bag electronic key and vital measure in the evaluation of performance parameters before and during the service; it is crossing all over the adequacy of knowledge, skills and personal, and the need to include this type of assessment within the parameter setting software [7].
3. Study of (Nayef Ali Al-abrat, 2011): The purpose of this study was to design software for science and its impact in the collection of the seventh students in the Republic of Yemen and applied to a sample of seventh grade students, the study showed that the experimental group students have benefited from the potential, (power point & flash) provided technical software designed, using a program that has helped to raise the attention of students to exploit the elements of sound, movement and color, which was created properly, and focus on the principle of self-learning, in a manner raises the motivation of learners towards learning, the study concluded that the use of software technology designed helped out of regular classroom atmosphere which led to the students interact with educational software technology designed more than sense and thus increase academic achievement [8].
4. Study (Abdel Nasser al-Jarrah, Mohammed Al-Mefleh, Faisal Al Rabeah, and Mamoon Ghawanmeh (2014): This study aimed to investigate the effect of teaching using computers to improve the level of motivation of learners towards learning mathematics, which included

exercises and activities during which students multiplication in math education, and a measure of motivation towards learning, study showed that motivated learner is a very important fundamental factors, with not less important mental abilities, and thinking skills has; because without motivation will not make any effort to learn, even though possessed the ability to study and understanding and achievement because the motivation is one of the good principles of learning, where you pay the individual toward more effort and energy to learn new positions, or solve the problems facing it, and the study concluded that the necessity of activating the role of computers in education, and be seen as a means to help in raising the level of students' motivation to learn [14].

5. Study (Mehdi Hassan Rebhi (2015) Book of teaching and learning technology: Between the writer in this book that the teacher in this era read by every day something new in the field of education, information technology, particularly software and Internet, and increase the sense of responsibility, and increasing confusion in front of how to deal with these techniques, including develop the talents of today's children, our future, and increases efficiency and achieve a positive impact on various aspects of their personalities, and provides them with the best level of education, and therefore how to use information and communication technology in education depends on the identification of the target, and follow the steps to apply the technology education scientifically sound, and monitoring the impact on the composition of the learner as is the development of self-motivation to learn, and it has converted to an active researcher for information and not in receipt of, and the bombing of the energies of creativity and innovation, and it has focused this book to shed light on a wide area of future technology to benefit every worker in education and every student aware of [15].

6 CONCLUSION

The educational software addresses the mind of the learner directly. This enables him/her to interact with it as a tutor living in an atmosphere full of enthusiasm and energy that may not be available using conventional teaching methods because they contain sound, still and moving images, appropriate colors, and video clips that help to support the main ideas, and raise the motivation of the learner's self-learning. The use of educational software in education pushes students to inquire about all that is new, and to engage in discussions and express their opinions about what they have learned. The use of a computer to get the information quickly increases the cognitive student outcome, thus constitutes a structure of knowledge that help him in dialogue and discussion.

7 RECOMMENDATIONS

This research recommends the following:

1. The necessity of activating the role of computers in education, and to be looked at as a means to help in raising the level of students' motivation to learning.
2. The necessity to expand the base of all benefiting teachers from computer courses , and to equip them skills that deal with computer and software design, so that they can apply them in teaching, as this has a positive impact on students.
3. Design software by those in charge of curriculum in the Ministry of Education, and to supply that to teachers to implement them, and using them in teaching, thus contributing to the standardization of software in all schools.
4. New techniques that align curriculum progress must be used in public education as these two must be coupled together.
5. Provide training and workshops periodically, such as every three months to guide students to the importance of the use of modern techniques in education so that they are encouraged to participate in the educational process and activate their role more [2],[14].

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